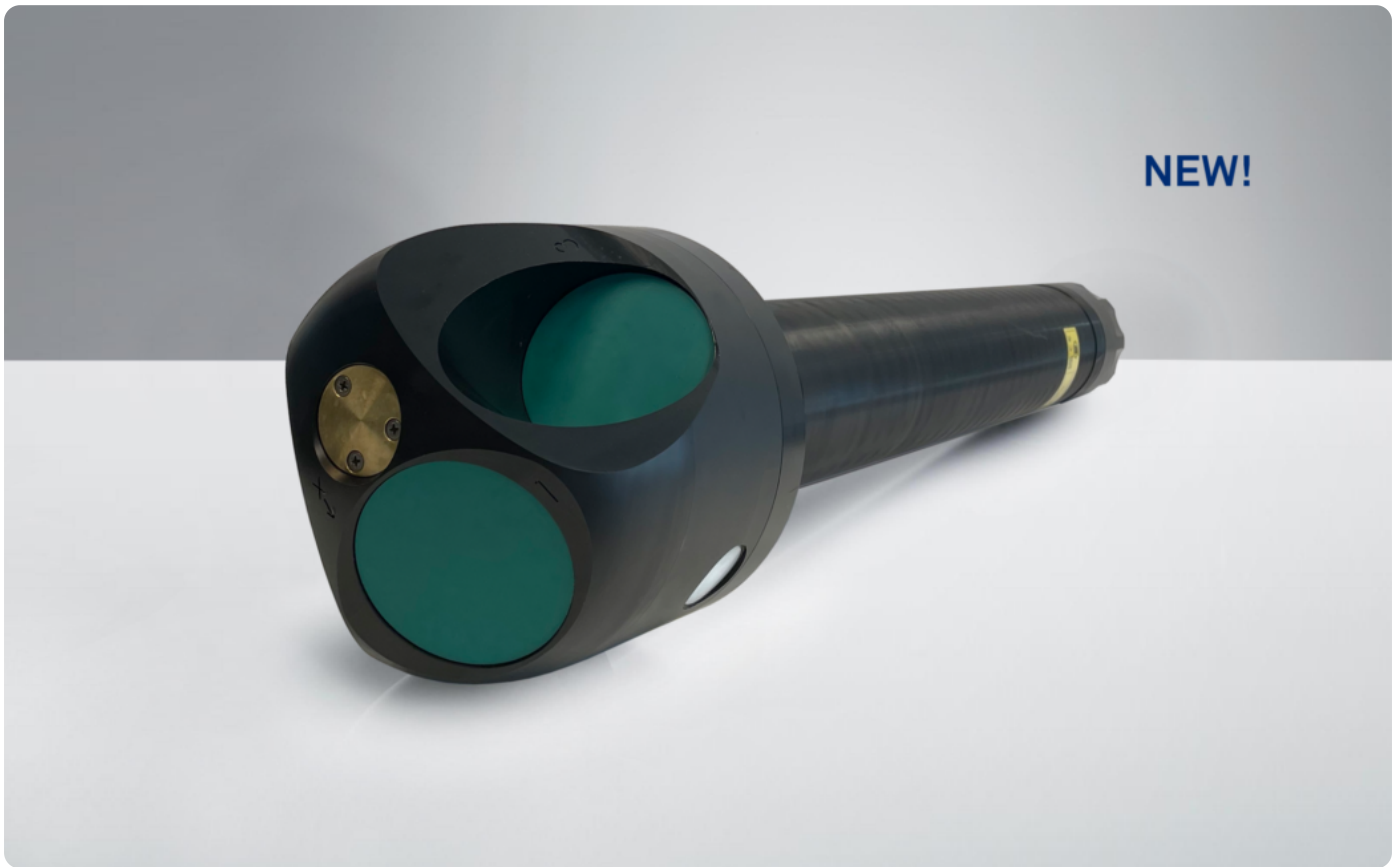


Aquadopp Profiler 400 kHz - 500 m, Generation 2



Up to 90 m current profiling range; ideal for mean current measurements

The Aquadopp Profiler is a highly versatile Acoustic Doppler Current Profiler (ADCP) available in four profiling range options, from < 1 m to > 90 m. The 400kHz version is designed for simple yet powerful operation, this current profiler is packed with features used by engineers and researchers to enable accurate and effective hydrodynamic data collection in a variety of environmental conditions.

See the details of the Generation 2 Aquadopp updates in the release notes [here](#).

Highlights

- ✓ Up to 90 m current profiling range
- ✓ Simple operation and deployment
- ✓ Ideal for a wide range of applications and deployment methods

Applications

- ✓ Mean flow measurements with high focus on ease of use and simplicity
- ✓ Measurements in flow regimes with strong variations in flow speeds
- ✓ Studies of tidal currents
- ✓ Suitable for wave buoys

Technical specifications

→ Water velocity measurements

Nominal profiling range*	90 m
Cell size	1-8 m
Maximum number of cells	200
Minimum blanking	1 m
Velocity range (along beam)	±1 m/s, ±2.5 m/s, ±5 m/s
Accuracy	±1% of measured value ±0.5 cm/s
Velocity range (horizontal)	±2.3 m/s, ±5.75 m/s, ±11.5 m/s, ±20 m/s (upon request)
Horizontal velocity precision**	Typ. 1cm/s
Maximum sampling rate (output)	1 Hz
Wave measurement	PUV (optional)

* Depending on scattering conditions

** Consult instrument SW

→ Echo intensity

Sampling	Same as velocity
Resolution	0.5 dB
Dynamic range	90 dB
Transducer acoustic frequency	400 kHz
Number of beams	3 (see GA drawings for angles)
Beam width	1.9° (3.8° total)

→ Sensors

Temperature:

Temp. range	-4 to +40 °C
Temp. accuracy/resolution	0.1 °C/0.01 °C
Temp. time response	<1 min

Compass: Solid State Magnetometer

Accuracy/resolution <2° for tilt <30°/0.01°

Tilt: Solid State Accelerometer

Accuracy/resolution 0.2° for tilt <30°/0.01°

Maximum tilt Full 3D

Up or Down Automatic detect

Pressure: Piezoresistive

Range 30m/100m/500m

Accuracy/Precision 0.5% FS/ 0.005% of full scale

→ Data recording

Capacity 16 GB

→ Real-time clock

Accuracy	±1 min/year
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Backup in absence of power	4 weeks
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→ Data communications

I/O	RS-422 (Inquire for RS-232)
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Communication Baud Rate	9600 Baud-1.2 Mbaud (default 115200 Baud)
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User control	Nortek Deployment Software or direct ASCII commands, with binary or ASCII data output
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→ Software

Operating system	Cross platform
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Functions	Deployment planning, instrument configuration, data retrieval and conversion. Online data display.
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→ Power

DC input	9-24 VDC
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Absolute maximum DC input	26 VDC
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Maximum peak current	4.5 A
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Power consumption	Consult Nortek Deployment Software
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Sleep current	< 40 uA
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Transmit power	Adjustable
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→ Batteries

Internal Battery Capacity	1-3x 50 Wh (Alkaline), 2-3x 165 Wh (Lithium), 1-3x 76 Wh (Li-Ion)
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Battery weight	430 g per 50 Wh (Alkaline), 380 g per 165 Wh (Lithium), 300 g per 76 Wh (Li-Ion)
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New battery voltage	13.5 VDC
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→ Environmental

Operating temperature	-5 to +40 °C
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Storage temperature	-20 to +60 °C
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Shock and vibration	Shock: IEC 60068-2-27, Vibration: IEC 60068-2-64
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EMC	EN IEC 61000-6-2:2019, EN IEC 61000-6-4:2019
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Depth rating	500 m
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→ Connectors

Bulkhead (Impulse)	MCBH-8-FS Brass
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Cable	PMCIL-8-MP on 5 m (default) polyurethane cable
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→ Materials

POM, Naval Brass, Titanium Gr. 5, Epoxy

→ Dimensions (see drawings for details)

Maximum housing diameter	75 mm
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Maximum length	685 mm
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→ Weight

Weight in air (without batteries)	3700 g
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Weight in water (without batteries)	50 g
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Weight in air, short housing (without batteries)	3100 g
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Weight in water, short housing (without batteries)	500 g
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→ Head configurations

S4VP	Shallow water, 400 kHz, Vertical orientation, Profiler
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→ Online cable information

Power wire gauge	20AWG; 20AWG; 18AWG
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Hardware	Standard; Standard; Long cable kit
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Cable length	0-10m; 10-50m; 50-500m
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Input voltage	9-24VDC; 24VDC +/-0,5; 48VDC +2/-5
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Absolut maximum DC input	26 VDC; 26 VDC; 51 VDC
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Communication	RS232/RS422/115200; RS232/RS422/115200; RS422/115200
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